

KUZNETSOV, I.S., kand.meditsinskikh nauk; PETROV, V.I., kand.meditsinskikh nauk; FEDOTOV, P.D.

Roentgen diagnosis of actinomycosis of the thoracic and abdominal cavity. Vest. rent. i rad. 35 no. 5:37-43 S-0 '60. (MIRA 13:12)

1. Iz rentgeno-radiologicheskogo otdela (zav. - kandidat meditsinskikh nauk V.I. Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirovskogo (dir. - kand.med. nauk P.M. Leonenko).
(ACTINOMYCOSIS)

DUBROV, Ya.G., prof.; BUACHIDZE. O.Sh., kand. med. nauki; FEDOTOV, P.D.

Bone chondroma. Vest. khir. 91 no.11:41-46 N 163.

(MIRA 17:12)

1. Iz ortopedo-travmatologicheskogo otdeleniya (rukovoditel' - prof. Ya.G.Dubrov) i rentgeno-radiologicheskogo otdela (rukovoditel' - prof. V.I.Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta. Adres avtorov: Moskva, ul. Shchepkina, d. 61/2, ortopedo-travmatologicheskoye otdeleniye.

DUBROV, Ya.G., prof.; BUACHIDZE, O.Sh., kand.med.nauk; FEDOTOV, P.D.

Solitary bone cysts. Ortop., travm. i protez. 25 no.3:19-23 Mr
'64. (MIRA 18:3)

1. Iz ortopedo-travmatologicheskogo otdeleniya (rukododitel' - prof. Ya.G.Dubrov) i rentgeno-radiologicheskogo otdela (rukododitel' - prof. V.I.Petrov) Moskovskogo oblastnogo klinicheskogo instituta (dir. - kand.med.nauk P.M.Leonenko). Adres vatorov: Moskva I-110, ul. Shchepkina, d.61/2, Moskovskiy oblastnoy klinicheskiy institut.

FEDOTOV, P.D.

Calculating the qualitative indices for work in X-ray clinics. Vest. rent. i rad. 36 no.6:82-83 N-D '61. (MIRA 15:2)

1. Iz rentgeno-radiologicheskogo otdela (rukoveditel' - doktor meditsinskikh nauk V.I.Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F.Vladimirskogo (dir. - zasluzhennyj vrach RSFSR P.M.Leonenko).
(RADIOGRAPHY)

FEDOTOV, F. F.

"Viability of Dysentery Bacilli of the Flexner Group in Food Products"
Scv. Zdravookhraneniye Kirgizii, No. 2, 1953, pp 43-47

The viability of dysentery bacilli was investigated in milk, curds, sour cream, sausage, and (fresh) meat cuts. For instance, pieces of meat were placed in a sterile jar and covered with two milliliters of an emulsion of 1 billion microbe bodies. This infected material was stored at 18 to 25 degrees and at 4 to 6 degrees (centigrade). The flexner bacilli survived in sterile milk 30 to 40 days and in cooked meat and sterile cheese 35 to 45 days. Some of the Flexner bacillus cultures were tested for their biochemical properties in comparison to paracolon (bacillus). They agglutinized at one fourth to one eighth the Flexner serum titer. Dysentery culture which were typical for their biochemical properties agglutinized at one half the Flexner serum titer. Their virulence was unstable. (RZhBiol, No 4, 1954)

SO: Sum. No. 422, 12 May 55

OBYDENNOV, V.A., dots; SLAVIN, A.M. zootehnik; FEDOTOV, P.I.

Penicillium mycelium as swine feed. Zhivotnovodstvo 21 no.6:72-74
Je '59. (MIRA 12:8)

1. Moskovskaya veterinarnaya akademiya (for Obydennov); 2. May-
nyy vetrach sovkhoz "Belya dacha," Ukhomskogo rayona, Moskovskoy
oblasti (for Fedotov).

(Swine—Feeding and feeding stuffs)
(Penicillium)

FEDOTOV, P. I., gorn.inzh.

Automatizing the feed of boring machines toward the work
face. Gor.shur. no.8:77-78 Ag '60. (MIRA 13:8)

1. Kazakhskiy gorno-metallurgicheskiy institut, Alma-Ata.
(Boring machinery) (Automatic control)

FEDOTOV, P.I.; PETROV, V.G.; ROZMARIN, Sh. V.

Metastatic chorioepithelioma of the mediastinum. Sovet. med. 23 no.2;
135-137 F '59. (MIRA 12:3)

(CHORIOCARCINOMA, case reports
mediastinum (Rus))
(MEDIASTINUM, neoplasms
choriocarcinoma (Rus))

FEDOTOV, P. I. Cand Tech Sci -- "Automation of the feed, and productivity
of rotary-^{percussion} boring machines." Alma-Ata, 1960 (Min of Higher ~~Education~~
Education. Kazakh Polytechnic Inst). (KL, 1-61, 198)

FEDOTOV, P.I.

An LSD for each large stockbreeding farm. Veterinariia 36 no.6:
71-72 Je '59. * (MIRA 12:10)

1. Glavnnyy veterinarnyy vrach sovkhoza "Belaya Dacha", Ukhтом-
skogo rayona, Moskovskoy oblasti.
(Disinfection and disinfectants--Equipment and supplies)

FEDOTOV, P.I.

Modernizing rock drills for the purpose of increasing boring speed. Trudy Alt. GMNII AN Kazakh. SSR 15:104-108 '63.

Method of studying the operation of a rock drill feeder.
Ibid.:109-111 (MIRA 17:3)

FEDOTOV, P. I.

"Aspects of the course of croupous pneumonia in recent years" - p. 20

Voyenno Meditsinskiy Zhurnal, No. 3, 1962

FEDOTOV, P. I. (Khabarovsk)

Marked physical and roentgenological changes in the lungs in croupous pneumonia, treated with sulfanilamide preparations and antibiotics. Klin. med. no.6:106-110 '61. (MIRA 14:12)

(PNEUMONIA) (SULFONAMIDES) (ANTIEIOTICS)

POLIKARPOV, B.V.; FEDOTOV, P.I.; RUDNEV, A.A.

Prophylaxis of hog cholera. Veterinariia 39 no.8:34-37
Ag '62. (MIRA 17:12)

1. Glavnyy veterinarnyy vrach Lyuberetskogo rayona, Moskovskoy oblasti (for Polikarpov). 2. Glavnyy veterinarnyy vrach sovkhoza "Belya dacha", Lyuberetskiy rayon, Moskovskoy oblasti (for Fedotov). 3. Glavnyy veterinarnyy vrach sovkhoza imeni Masseveta, Lyuberetskiy rayon, Moskovskoy oblasti (for Rudnev).

Fedorov, P.I.

730g-RML

4731
TRANSITION CURVES FOR AIR-LEAD AND THE ANGULAR DISTRIBUTION OF SINGLE COSMIC RAY PARTICLES
A.I. Zhdanov and P.I. Fedorov, Izvest. Akad. Nauk
S.S.R. Ser. Fiz. 18, 547 (1956) Sept.-Oct. (in Russian)

envt

FEDOTOV, P. I.

USSR/Physics - Cosmic particles

Card 1/1 : Pub. 22 - 13/60

Authors : Zhdanov, A. P., and Fedotov, P. I.

Title : The transient effect and the angular distribution of singular cosmic particles

Periodical : Dok. AN SSSR 100/1, 659-660, Feb 1, 1955

Abstract : Experiments with the so-called "transient effect" of components generating stars and heavy particles are described and analyzed. The free path and the absorption cross-section of this component in lead was calculated and angular distribution of singular cosmic particles was studied. The results are presented in graphs and a table. Eight references: 2 German, 2 Italian, 3 USSR and 1 British (1940-1952). Tables; graphs.

Institution : Acad. of Scs., USSR, The V. G. Khlopin Radiation Institute

Presented by : Academician P. I. Lukirskiy, October 9, 1954

ZHDANOV, A. P., KARTUYANSKIY, A. L., KUZ'MIN, V. N., RYZHKOVA, I. V., FEDOTOV, P. I.,
and SHUR, L. I. Moscow, USSR.

"Preparation Des Emulsions Nucleaires et Mecanisme Le Leur Sensibilisatin
Par La Triethanolamine."

paper presented at Program of the Second International Colloquium on Corpuscular
Photography. Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114647.

SOV-120-58-1-8/43

AUTHORS: Zhdanov, A.P., Kolpakov, M.I., Kuz'min, V.N., Raguzin, R.M.,
Fedotov, P.T.

TITLE: An Instrument for Measuring the Gap Lengths in the Tracks
for Particles in Photo-Emulsions (Pribor dlya izmereniya
prosvetov v trekakh chastits v fotoemul'siyakh)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 46-47
(USSR)

ABSTRACT: The instrument is in the form of an eye-piece in whose
field of view one sees a scale, a pair of parallel lines
and the usual crosswire. The cross wire is set parallel to
the track and the gap defined by the two parallel wires is
moved along the track. This motion is achieved by means of
the two micrometers shown in Fig.2. The motion of the two
micrometers is independent of each other. There are 2
diagrams, no tables and 3 references, one of which is English

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SOV-120-58-1-8/43

An Instrument for Measuring the Gap Lengths in the Tracks for
Particles in Photo-Emulsions.

and 2 Soviet.

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the
Academy of Sciences, USSR)

SUBMITTED: June 22, 1957.

1. Particles--Photographic analysis
2. Particles--Penetration
3. Measurement
4. Optical instruments--Applications

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05461
SOV/120-59-3-32/46

AUTHORS: Zhdanov, A. P. and Fedotov, B. I.

TITLE: The Use of a Diamond Dust Suspension in the Study of Nuclear Disintegrations on Carbon (Primeneniye suspenzii iz almaznoy pyli dlya izucheniya yadernykh rasshchepleniy na uglerode)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 3,
p 133 (USSR)

ABSTRACT: Zhdanov et al. (Ref 1) have suggested that the interaction of various particles with the nuclei of different elements may be studied by introducing these elements in the form of suspensions into nuclear emulsions. The size of such particles is usually 5-12 μ . However, this method involves a number of difficulties due to the fact that the dust particles are opaque so that some of the disintegrations which take place on the nuclei of the emulsion itself may be taken as disintegrations on the nuclei of the suspension. This effect can be reduced by using spherical particles and by soaking the emulsion in the vicinity of the surface of the particles (Ref 2). However, disintegrations which take place in
Card 1/2 the immediate vicinity of the suspension particles are

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The Use of a Diamond Dust Suspension in the Study of Nuclear Disintegrations on Carbon

still impossible to separate from disintegrations on nuclei of the element under investigation, since the centre of a particular event cannot be seen against the background of the opaque suspended particles. The present authors have used a suspension of diamond dust in their investigations of proton-carbon interactions. Diamond particles 5-10 μ in diameter are quite transparent so that the above effect is removed. Any doubtful events which take place under one of these diamond particles can be looked at from the glass side of the plate using a long focus objective (31 x 0.6). Several hundred disintegrations have been found which are definitely due to disintegrations in the diamond particles. There are 2 Soviet references.

(Note: This is a complete translation)

ASSOCIATION: Radiyevyy institut AN SSSR (Radium Institute of the Ac.Sc., USSR)

SUBMITTED: February 24, 1958

Card 2/2

21(7)

AUTHORS:

Zhdanov, A. P., Fedotov, P. I.

SOV/56-37-2-10/56

TITLE:

Results of an Investigation of the Carbon Nuclei Caused by Protons With Energies of 660 MeV

Disintegration of

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
Vol 37, Nr 2(8), pp 392-398 (USSR)

ABSTRACT:

In the introduction the authors discuss the method of investigating the interaction of high-energy particles with light nuclei (C, N, O) by means of nuclear emulsions and the difficulties occurring hereby. The results obtained by several earlier papers are mentioned. Like in a previous paper (Ref 6) the authors used a diamond dust suspension for the purpose of investigating the (p,C) interaction. They used three-layer emulsions (layer thickness 15-20 μ , size of particles 5-7 μ). Two types of emulsion were used - the type D for recording protons with 16-20 Mev, and type S (relativistic emulsion). Irradiation with 660 Mev-protons was carried out on the phasotron of the Ob'yedinenyyi institut yadernykh issledovaniy (Joint Institute of Nuclear Research). Investigation results are shown by 2 tables and 4 diagrams. 540 disintegrations of carbon nuclei

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Results of an Investigation of the Carbon Nuclei Caused by Protons With Energies of 660 MeV

Disintegration of SOV/56-37-2-10/56

were found: 190 in S-emulsions and 350 in D-emulsions. The average number of secondary tracks in C^{12} -stars was determined as 3 in consideration of the absorption of short tracks (mainly α -particles). The correction was made by using the formula $N/N_{\text{true}} = (31/4R^3)(R^2 - \frac{1}{12}l^2)$, where N denotes the number of recorded tracks with a length l , N_{true} - the true number of tracks with the range l ($0 \leq l \leq 2R$), R - the mean radius of the diamond particles (3μ). The distribution of disintegrations according to the number of prongs and the nature of the reaction is shown by 2 tables. Table 1 shows the number of tracks (1-8), the percentage of the total number of disintegrations in each case, and the corresponding cross section. Five-track disintegrations (34%) are the most frequent, next range the 4-, 6, 1, 2, 3, 7, 8 track ones. The maximum cross section is 78 ± 8 mb. Table 2 shows the distribution of stars according to the nature of the reaction and the respective cross sections. The absorption cross section given as amounting to $\sigma_a = 227 \pm 12$ mb for

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Disintegration of SOV/56-37-2-10/56
Results of an Investigation of the Carbon Nucleus Caused by Protons With
Energies of 660 Mev

650 Mev protons was obtained from a paper by Moskalev and Gavrilovskiy (Ref 9). The following kinds of disintegration are contained in table 2: $C_6^{12}(p, p_2n)C_6^{11,10}$, $C_6^{12}(p, 2p_2n)C_5^{11,10}$, $2p2\alpha$, $4p\alpha$, 3α , p_2Li , $2pBe$, $6p$, $2p2\alpha$, $3pLi$, $5p\alpha$; the highest percentage is attained by the type $2p2\alpha$ with 32.6%. The data contained in the table are discussed more in detail with respect to particles with $Z \geq 3$. Energy- and angular distribution of secondary particles are shown by 2 diagrams respectively (Figs 1,2). The forward-backward ratio for α -particles is given as amounting to 1.77 ± 0.2 and for protons to 1.55 ± 0.2 . The velocity of the recoil nucleus was calculated as amounting to $v = (2.7 \pm 0.6) \cdot 10^8$ cm/sec. The authors finally thank M. G. Meshcheryakov and V. P. Dzhelepov, who made it possible for the experiments to be carried out, G. M. Subbotina for her help in evaluating the experimental material, and I. M. Kuks for discussions. There are 2 figures, 2 tables, and 15 references, 6 of which are Soviet.

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Disintegration of SOV/56-37-2-10/56
Results of an Investigation of the Carbon Nuclei, Caused by Protons With
Energies of 660 MeV

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of the
Academy of Sciences, USSR)

SUBMITTED: March 21, 1959

Card 4/4

MEDOTOV, P.I.

Application of the potential barrier criterion to the study of
disintegrations in nuclear emulsions. Zhur.eksp.i teor.fiz.
37 no.4:944-949 O '59. (MIRA 13:5)

1. Radiyevyy institut Akademii nauk SSSR.
(Particle track photography) (Nuclear reactions)

FEDOTOV, P. I., Cand Phys-Math Sci -- "Study of the ^{inelastic}
^{between} interaction ~~of~~ ^{and} high-energy protons ~~with~~ ^{the} nuclei of carbon."
Len, 1961. (Acad Sci USSR. Phys-Tech Inst im A. P. Ioffe)
(KL, 8-61, 229)

ZHDANOV, A.P.; FEDOTOV, P.I.

Inelastic interaction of 660 Mev. protons and carbon nuclei. Zhur. eksp. i teor. fiz. 41 no.6:1870-1878 D '61. (MIRA 15:1)

1. Radiyevyy institut AN SSSR.
(Protons--Scattering) (Carbon)

FEDOTOV, P.I.; KOSHUL'KO, P.M., dotsent

Feed of a bit on the bottom of a borehole for standardizing the
drilling process. Sbor. nauch. trud. Kaz GMI no.19:103-108 '60.
(MIRA 15:3)

(Boring machinery)

FEDOTOV, P.I.; KURMANKULOV, Ye.M.; BRICHKIN, A.V., prof.

Vibrating automatic feed. Sbor. nauch. trud. Kaz GMI no.19:167-170
'60. (MIRA 15:3)
(Boring machinery)

FEDOTOV, P.I.; FAVORSKIY, V.V., dotsent

Hydraulic vibrating automatic feeder. Sbor. nauch. trud. Kaz GMI
no.19:202-207 '60. (MIRA 15:3)
(Boring machinery--Hydraulic drive)

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8/056/61/041/006/033/054
B125/B102

24.6600

AUTHORS: Zhdanov, A. P., Fedotov, P. I.

TITLE: Inelastic interaction of 660-Mev protons with carbon nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
no. 6(12), 1961, 1870-1878

TEXT: This article deals with the applicability of the nuclear model of R. Serber (Phys. Rev., 72, 1114, 1947) and M. Goldberger (Phys. Rev., 72, 1469, 1948) to the calculation of an intranuclear cascade in light nuclei. The most important differences between inelastic interactions of high-energy particles with light and heavy nuclei are as follows: In cascade processes in a light nucleus, both nucleons and complex particles (presumably alpha particles) participate. This assumption will be discussed in detail in a later paper. The resonance effect can be neglected when calculating the intranuclear cascade, since the excitation cross section of levels with $U > 10$ Mev is not greater than 1% of the total inelastic scattering cross section. The "losses in range" of a nucleon in the nucleus are studied for different collision parameters. The nuclear

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cascade was calculated using the distribution found by the Meshcheryakov group (L. S. Azhgirey, I. K. Vzorov, et al., ZhETF, 36, 63, 1959) and allowing for the production, absorption, and scattering of pions from nuclear nucleons. About 500 interaction events of 660-Mev protons were evaluated by the Monte-Carlo method for constant and variable densities of nuclear matter in the C_6^{12} nucleus. The absorption cross section for a nucleus of constant density was 220 millibarns, and that for a nucleus of variable density was 235 millibarns. These theoretical values correspond best to the experimental cross sections of V. I. Moskalev and B. V. Gavrilovskiy (DAN SSSR, 110, 972, 1956) for the interaction of 650-Mev protons with various nuclei. The quasi-elastic pp and np scattering cross sections, calculated by the model of radially variable nuclear density, agree with experimental cross sections. According to M. G. Meshcheryakov et al. (L. S. Azhgirey et al., ZhETF, 36, 63, 1959), the proton energy spectra obtained when bombarding various nuclei, such as carbon, exhibited a distinct maximum at high energies, which corresponds to single quasi-elastic collisions of protons with nuclear nucleons. The angular distribution calculated for C_6^{12} is not essentially changed by allowing for

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Inelastic interaction of ...

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radially variable nuclear density. When comparing theoretical and experimental energy and angular distributions, it should be considered that (1) interactions in calculated spectra, in which the excitation energy U of the residual nucleus after the emission of one or two cascade protons does not suffice for the emission of at least one proton or alpha particle, are to be neglected; (2) charged pions must be taken into account in calculated spectra. Under these circumstances, the total number of cascade protons and the general shape of the experimental spectrum for $q \neq \text{const}$ are in satisfactory agreement with the theoretical spectrum. This is confirmed by a comparison of experimental and theoretical yields of residual nuclei with the distributions among the excitation energies following from an analysis of spallations on carbon nuclei. V. V. Chavchanidze is thanked for comments, G. M. Subbotina for assistance, L. I. Shur and I. V. Ryzhkova for photoemulsions, as well as V. N. Kuz'min and I. M. Kuks for discussions. There are 5 figures, 2 tables, and 22 references: 8 Soviet and 14 non-Soviet. The four most recent references to English-language publications read as follows: M. Rotenberg, L. Wilets. Phys. Rev., 110, 1126, 1958; H. F. Ehrenberg, R. Hofstadter, U. Meyer-Berkhout, S. F. Sobbotka. Phys. Rev., 113, 666,

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Inelastic interaction of ...

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B125/B102

1959; J. D. Dowell, W. R. Friskin, G. Martelli, B. Musgrave. Proc. Roy. Soc., 15, 24, 1960; N. Metropolis et al. Phys. Rev. 110, 204, 1958.

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: June 24, 1961

Table 1

Сечени	σ_{pp} мбн	σ_{pn} мбн
Эксперимент	46±10	54±12
Расчет ($p = \text{const}$)	17±3	19±3
Расчет ($p \neq \text{const}$)	33±5	33±5

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40415
S/056/62/043/003/016/063
B102/B104

AUTHORS: Zhdanov, A. P., Fedotov, P. I.

TITLE: Cascade alpha particles from carbon nuclei disintegrated by
660-Mev protons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 3(9), 1962, 835-838

TEXT: The energy and angular distributions of α -particles produced in C^{12} disintegration induced by 660-Mev protons are compared with the spectra as calculated for intranuclear α -cascades. The number of cascade α -particles per disintegration was experimentally determined to be 0.15 ± 0.02 , theoretically 0.09 was obtained. This divergence is attributed to the difference in the number of α -particles emitted between 0 and 30° . In this angular interval more than 50 % of all cascade α -particles are emitted (calculation: almost isotropic distribution between 0 and 90°). An analysis of the spectra shows that about 70 % of the cascade α -particles of the experimental spectrum are due to direct

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Cascade alpha particles from...

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interaction between the cascade nucleons and the intranuclear α -substructure.
There are 3 figures.

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of
the Academy of Sciences USSR)

SUBMITTED: April 14, 1962

Card 2/2

L 19649-63 BDS/EWT(m) AFFTC/ASD

ACCESSION NR: AP3007061

S/0056/63/045/003/0455/0459

AUTHORS: Zhdanov, A. P.; Fedotov, P. I.

TITLE: Decay of residual nuclei produced in the interaction of 660 MeV protons with carbon nuclei

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 455-459

TOPIC TAGS: carbon nuclei, disintegration induced by protons, residual nucleus decay, cascade process

ABSTRACT: The experimental and calculated excitation yields and energies of residual nuclei produced after termination of the cascade process in the C^{12} nucleus have been obtained from an analysis of disintegrations produced on diamond particles introduced in emulsions. The analysis is based on the assumption that the possible final states have a frequency of occurrence that is proportional to their statistical weights. The calculations agree well with experi-

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L 19649-63

ACCESSION NR: AP3007061

ment. "The authors are grateful to G. M. Yanchilenko for great help in performing the measurements and calculations, to L. I. Shur for preparing the emulsions, and to V. N. Kuz'min and I. M. Kuks for discussions." Orig. art. has 1 figure, 3 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 22 Mar 63 DATE ACQ: 08Oct63 ENCL: 03

SUB CODE: PH NO REF SOV: 005 OTHER: 003

Card 2/02

FEDOTOV, P.I.

Absorption of stopped π^0 -mesons by carbon nuclei. IAd. fiz.
2 no.3:466-470 S '65. (MIRA:18:9)

L 13171-66 ENT(m)/T/EWA(m)-2 WH

ACC NR: AP6001163

SOURCE CODE: UR/0387/65/002/003/0466/0470

AUTHOR: Fedotov, P. I.

ORG: None

TITLE: The absorption of arrested π^- -mesons by carbon nuclei 19,44,55SOURCE: Yadernaya fizika, v. 2, no. 3, 1965, 466-470TOPIC TAGS: pi meson, photoemulsion, particle interaction, fast particle, charged particle, nuclear

ABSTRACT: The author investigates the absorption of π^- -mesons by carbon nuclei. Diamond particles (about 7 μ in diam.) were introduced into the nuclear photoemulsions for interaction with the carbon. An emulsion chamber ($10 \times 10 \text{ cm}^2$) was designed, consisting of 70 layers each 400 μ thick of type K nuclear photoemulsion. The dimensions of this chamber made it possible to observe the fastest charged particles generated during the capture of the π^- -mesons until they were completely at rest. The spallations due to the arrest of the π^- -meson in a diamond particle were taken for analysis. The emulsion chamber was irradiated by a beam of 80-MeV π^- -mesons plane parallel to the emulsion layer on the OIYaI synchro-cyclotron. The mesons passing through the emulsion were slowed down to a position of rest. The maximum number of mesons at rest was located about 6 cm from the spot the mesons entered the emulsion layer. The transparency of the diamond particles made it possible to completely do away with the effect of the "indeterminate zones".

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ACC NR: AP6001153

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which leads to considerable mixtures of spallations from other elements contained in the emulsion. On the basis of an analysis of 520 captures of π^- -mesons by carbon nuclei, it is shown that the share of the "one-nucleon" absorption does not exceed 15%. The experimental data agree with the assumption of the two-nucleon mechanism of the capture of π^- -mesons. The probability of capture of π^- -mesons by np- and pp-pairs is estimated. Author expresses his gratitude to A. P. Zhdanov for interest in the work, V. P. Dzhelepov and Yu. D. Prokoshkin for cooperation in setting up the experiment, L. I. Shur and N. V. Skirde for assistance in the manufacture and subsequent finishing of the emulsion chamber, and G. M. Yanchilenko, T. I. Duve, I. P. Przhesmitskaya, G. N. Zhikhareva, and A. A. Blyudzin for assistance in examining the emulsion layers and the measurements. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 06Aug84/ ORIG REF: 007/ OTH REF: 007

Card 2/2

FEDOTOV, P.M.

Improving the working conditions. Put' i put. khoz. 7 no.11:29 '63.
(MIRA 16:12)

1. Nachal'nik Ivano-Frankovskoy distantsii.

CHIZHOU, D.G.; KOOTEV, G.I.; LAVREHENKO, K.D.; SPIRIN, S.A.; NEKRASOV, A.M.; IVANOV, M.I.; UFADEV, M.Ya.; GRISHIN, I.K.; KOSTIN, M.P.; POPOV, V.A.; ZAGORODNIKOV, P.I.; YEDOTOV, P.N.; KAZ'MIN, A.V.; POMICHEV, G.I.; YERSHOW, P.I.; MISHCHERYAKOV, V.I.; YEFREMOV, S.G.; LEVIN, I.S.; IESTUCHEV, L.I.; KOKORIN, S.V.

Nikolai Alekseevich Andreev. Energetik 4 no.9:40 S '56. (MLRA 9:10)
(Andreev, Nikolai Alekseevich, 1896-1956)

FEDOTOV, P. V. MANKINA, I. P.; BAYANOVA, M. G.

"Types of Diphtheria Cultures in Material From the Town of Frunze and Their Connection to the Clinical Course of the Disease," Trudy Instituta Epidemiologii i Mikrobiologii Ministerstva Zdravookhraneniya Kirgizskoy SSR, Frunze, Vol 1, 1951, pp 28, 29.

FEDOTOV, P. V.

FEDOTOV, P. V.: "Bacteria dissemination by toys and methods of de-contaminating them." Kirgiz State Medical Inst. Fruse, 1956. (Dissertation for the Degree of Candidate in Biological Sciences).

SO: Knizhnaya Letopis', No 23, 1956

FEDOTOV, P. V. Cand Biol Sci -- (diss) "On certain factors contributing to
the spreading of infection in children's collectives, *and measures of prevention,*"
Molotov, 1957. 16 pp 20 cm. (Molotov Med Inst), 175 copies (KL, 24-57, 117)

FEDOTOV, P.V.; BAGYSHEKOV, A.B.

Experimental effect of acidophil milk on certain protective functions
of the organism. Report No.1. Sov. zdrav. Kir. no.1:30-33 Ja-F '62.
(MIRA 15:4)

1. Iz Kirgisskogo instituta epidemiologii, mikrobiologii i gigiyeny
(direktor - kand.med.nauk V.M.Perelygin).
(MILK, ACIDOPHILUS--PHYSIOLOGICAL EFFECT)

FEDOTOV, P.V.; GORYACHIKH, I.A.

Acidophilus milk in the prevention of intestinal infections and
diseases of the respiratory tract of small children. Sov.zdrav.
Kir. no.24-28 Mr-Ap '63. (MIRA 16:5)

1. Iz Kirgizzkogo instituta epidemiologii, mikrobiologii i gigiyeny
(dir. - kand.med.nauk V.M. Perelygin) i kafedry detskikh bolezney
(zav. - prof. B.F. Shagan) Kirgizzkogo gosudarstvennogo meditsin-
skogo instituta (rektor - chlen-korrespondent AN Kirgizzkoy SSR
V.A. Isabayeva).

(MILK, ACIDOPHILUS) (INTESTINES—DISEASES)
(RESPIRATORY ORGANS—DISEASES)

FEDOTOV, P.V.; KOZHOMKULOV, T.A.; MAMYTOV, B.M.

Chemical composition and antibacterial properties of maksym,
the Kirghiz national beverage. Sov. zdrav. Kir. no.4/5:85-89
Jl-0:63 (MIRA 17:1)

1. Iz Kirgizskogo instituta epidemiologii, mikrobiologii i
gigiyeny (dir. - kand. med. nauk V.M. Perelygin) i kafe try
gigiyeny sanitarnogo fakul'teta (zav. - dotsent B.M. Mamyтов)
Kirgizskogo gosudarstvennogo meditsinskogo instituta.

AR5002516

SOURCE: Ref. zh. Biologiya. Sv. t., Abs. 22B325

AUTHOR: Fedotov, P. V.; Kochetkov, T. A.; Mamyrov, B. M.

**TITLE: Chemical composition and antibacterial properties of the
Azerbaijani national drink "maksym"**

CITED SOURCE: Sov. zdravookhr. Kirgizii, no. 4-5, 1963, 85-89

TOPIC TAGS: *maksym, chemical composition, antibiotic effect, intestinal bacteria, staphylococcus*

TRANSLATION: The chemical composition and antibacterial properties of the Kirghiz national drink "maksym" were investigated. All the tested "maksym" samples inhibited the growth of *Escherichia coli* and *Staphylococci*. The antibiotic effect was reduced with heating to 80-90°. S. Feygina.

SUB CODE: LS ENCL: 00

Card 1/1

FEDOTOV, S.

STARTSEV, D.; KOLESNIEV, S., zasluzhennyy deyatel' nauki; BOLEV, V.; KHOROKHORIN, D.; SKURIKHIN, I.; KHOKHLOV, Ye.; BUIANOV, I.; dyashdy Geroy Sotsialisticheskogo Truda; TROFIMOV, A.; STEPANOV, N.; FEDOTOV, S.

The road toward new achievements. Sots. trud. no. 4-14-36 Ap '58.
(MIRA 11:4)

1. Starshiy ekonomist TSentral'nego planovo-ekonomicheskogo upravleniya Ministerstva sel'skogo khozyaystva SSSR (for Startsev).
2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I. Lenina (for Kolesnev).
3. Zaveduyushchiy sektorom ekonomicheskogo stimulirovaniya sel'skokhozyaystvennogo proizvodstva Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I. Lenina (for Boyev).
4. Zaveduyushchiy sel'skokhozyaystvennym otdelom Moskovskogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Khorokhorin).
5. Zaveduyushchiy knifedroy ekonomiki i organizatsii sel'skokhozyaystvennogo proizvodstva Ivanovskogo sel'skokhozyaystvennogo instituta (for Skurikhin).
6. Nachal'nik Spetsial'nogo konstruktorskogo byuro zavoda sel'khozmashin im. Uchtemskogo (for Khokhlov).
7. Predsedatel' kolkhoza "Vernyy put", Ivanovskogo rayona, Ivanovskoy oblasti (for Trofimov).
8. Glavnyy agronom Ramenskoy moshchino-traktornoy stantsii (for Stepanov).
9. Sekretar' partiiyoy organizatsii Ramenskoy moshchino-traktornoy stantsii (for Fedotov).
10. Predsedatel' kolkhoza im. Vladimira Il'icha (for Buiyanov).

(Machine-tractor stations) (Collective farms)

FEDOTOV, S.

People and deeds. Mast. ugl. no. 10:24-25, 24a-24b 0 '59 (MIRA 13:3)
(Chelyabinsk Basin--Coal mines and mining)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041273

FEDOTOV, S.

Labor's everyday routine. Mast.ugl. 9 no.8:10-11 Ag '60.
(MIRA 13:8)
(Donets Basin--Coal miners)

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041273

FEDOTOV, S.

Combined section. Sov.shakht. 10 no.3:14-15 Mr '61.
(MIRA 14:7)

1. Shakhta No.5, Volynskaya oblast'.
(Coal mines and mining)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041273

FEDOTOV, S.A., inzh. po mekhanizatsii

Contribution of the innovators. Put' i put. khoz. 7 no.11:30 '63.
(MIRA 16:12)

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00041273

GOSTEV, M.A.; FEDOTOV, S.A.

Spectral characteristics of the foreshocks and aftershocks
of the catastrophic earthquake of November 6, 1958. Izv.
AN SSSR. Ser. geofiz. no.5:675-687 My '64. (MIRA 17:6)

1. Institut fiziki Zemli AN SSSR.

FEDOTOV, S. A.

USSR/Geophysics - Conference

FD-762

Card 1/1 : Pub 44-10/11

Author : Kirillov, F.

Title : Chronicles. Conference of young scientists of the Geophysics Institute,
Academy of Scientists of the USSR

Periodical : Izv. AN SSSR, Ser. geofiz., 495-496, Sep-Oct 1954

Abstract : May 17-20, 1954, the Geophysics Institute held a conference at which
junior scientific workers participated with 18 reports; e.g. Ye. A.
Lyubimova (heating of the Earth), S. L. Solov'yev (intensity of
earthquakes in Turkmenia 1912-1951), S. A. Fedotov (wave hodographs),
Yu. I. Vasil'yev (use of amplitude data in seismic prospecting), O. G.
Shamina (elastic impulses during collapse of rocks in earthquakes),
O. I. Silayeva (velocity of propagation of elastic waves in granite,
marble, etc.), V. I. Tatarenko (propagation of waves in medium with
random weak inhomogeneity of refraction coefficient), L. P. Zaytsev
(reflection of waves from boundary), A. S. Chaplygina (measuring the
thermobaric field in the atmosphere by statistical treatment of empiric
data).

Institution : --

Submitted : --

FEDOTOV, S.A.

Approximate method for calculating dynamic hodographs of waves
refracted on curvilinear boundaries. Trudy Geofiz. inst. no. 35:51-
87 '56. (MIRA 10:1)
(Seismic waves)

FEDOTOV, S.A.

49-3-15/16

AUTHOR: Kirillov, F. A.

TITLE: Conference of junior research workers, engineers and aspirants of the Institute of the Physics of the Earth, Ac. Sc., U.S.S.R. (Konferentsiya mladshikh nauchnykh sotrudnikov, inzhenerov i aspirantov Instituta Fiziki Zemli AN SSSR).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya"
(Bulletin of the Ac. Sc., Geophysics Series), 1957,
No. 3, pp. 411-415 (U.S.S.R.)

ABSTRACT: The conference was held on December 24-26, 1956, 21 papers were read relating to work completed in 1955 and 1956. In this report the contents of the individual papers are briefly summarised. Fedotov, S.A. read a paper on the kinematic and dynamic features of waves refracted at curvilinear boundaries.

49-5-3/18

AUTHOR: Fedotov, S. A.

TITLE: Dynamic features of reflected waves, the arrival time of which is not a minimum. (O dinamicheskikh csoennostyakh otrazhennykh voln, vremya prikhoda kotorykh ne yavlyayetsya minimal'nym vozmozhnym vremenem).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya"
(Bulletin of the Ac.Sc. Geophysics Series), 1957, No.5,
pp.575-583 (U.S.S.R.)

ABSTRACT: The dependence of the type of oscillations on the type of the extremum of the wave's arrival time is discussed on the basis of results obtained by the author, summarizing also the work of H. Jeffreys (3) and of Anderson, Northwood and Barnes (6,7). Anderson et al. compared records of reflected waves with maximum and with minimum time paths. In this paper minimum path reflections and maximum-minimum (or saddle point) path reflections are compared. The work is based on the observation that both maximum and minimum path reflections change to maximum-minimum (or saddle point) path reflections, after having traversed a focussing zone or caustic. A disadvantage of Anderson's method is the use of a coincident transmitter and receiver; when these are moved, the distance from the transmitter to the reflecting surface is varied and so is the relation of the curvatures of the incident wave front and of the reflecting surface; the directional pattern

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49-5-3/18

Dynamic features of reflected waves, the arrival time of which is not a minimum. (Cont.)

of the transducers is ogive shaped. For the seismic model experiments apparatus was used which was developed by the Geophysics Institute of the USSR Ac.Sc.(Geofizicheskii Inst. AN SSSR) and described by Riznichenko, Yu.V. et al.(8-10); this is similar to Anderson's ultrasonic apparatus. Sixteen differing experiments were made. The first series of experiments was to check whether the shape of oscillations changes on passing through a focussing zone. For this purpose measurements were made along one ray of the reflected wave before the focussing zone, where the ray was that along a minimum time path and after the focussing zone, where the same ray was a maximum-minimum path. In these experiments the position of the source, the shape of the reflecting surface and the reflection point were always the same; the wave always arrived at the receiver under the same angle, which is important since the directional pattern of the piezocrystal receivers differs considerably in various directions and, therefore, the pattern of the oscillations registered depends considerably on the angle at which the wave arrives at the receiver. The reflecting surface was a cylindrically bent brass sheet. The plane in which the observations were made was perpendicular to the

Card 2/5

49-5-3/18

Dynamic features of reflected waves, the arrival time of which is not a minimum. (Cont.)

generatrix and passed through its middle, so that the problem was essentially a two-dimensional one. The relative position of the transmitter and receiver were experimentally determined so as to avoid interference between the reflection (after it had passed the focussing zone) and other arrivals and to make the reflection sufficiently strong. The path of the rays and the position of the caustic were determined graphically. The seismograms show the reflected ray before the focussing, travelling along the minimum time path with developed "code", the same ray passing through the caustic where, due to interference, the amplitude decreases and finally behind the caustic, travelling along the maximum-minimum path where the "code" becomes weaker and shorter. In accordance with the triple-valued travel-time curve, the reflection from the bottom of the reflecting surface is preceded by two reflections from the slopes of this surface, travelling along minimum time paths and arriving almost simultaneously; with increasing distance, the resolution of these reflections from the maximum-minimum reflection improves. In seismic prospecting, when waves are reflected or refracted by curved surfaces, they are focussed and dispersed. The evaluation of seismic prospecting

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49-5-3/18

Dynamic features of reflected waves, the arrival time of which is not a minimum. (Cont.)

results is based on the assumption that seismic energy propagates along rays. However, the type of waves passing through a focussing zone is changed and therefore in the second series of the experiments the aim was to check whether, in spite of this, the amplitude of waves can be calculated approximately on the assumption of their propagation in the form of rays. The second series of experiments was made with similar equipment to that used in the first. A triple-valued travel-time curve was plotted on the surface of water above the curved reflecting surface, where the arrivals were sufficiently resolved. The amplitude of the third arrivals was experimentally determined and compared with a theoretical curve, calculated on the assumption of ray propagation of seismic energy. The calculation method is given; it is based on the determination of the directional pattern of the transducers. It was found that both curves are very similar, which confirms that seismic energy propagates along rays both in and beyond the focussing zone. The paper contains 9 figures and 13 references, 9 of which are Slavic.

Card 4/5

49-5-3/18

Dynamic features of reflected waves, the arrival time of
which is not a minimum. (Cont.)

SUBMITTED: December 22, 1956.

ASSOCIATION: U.S.S.R. Ac. Sc. Institute of Physics of the Earth.
(Akademiya Nauk SSSR Institut Fiziki Zemli).

AVAILABLE: Library of Congress
Card 5/5

FEDOTOV, S.A. Cand Phys Math Sci -- (diss) "Concerning
kinematic and dynamic ~~particularities~~^{peculiarities} of seismic waves
refracted on curvilinear boundaries." Mos 1958, 10pp
(Acad Sci USSR. Inst of Physics of Earth) 100 copies
(KL, 21-58, 87,88)

- 4 -

FEDOTOV, S.A.

Kinematic and dynamic features of seismic waves refracted at
curvilinear boundaries. Izv. AN SSSR. Ser. geofiz. no.1:174-175
Ja '59. (MIRA 12:1)

1. Uchenyy Sovet Instituta fiziki Zemli AN SSSR.
(Seismic waves)

"Seismicity of the South of the Kurile Islands."

report submitted for the Second World Conference on Earthquake Engineering, Tokyo and Kyoto, Japan, 11-18 July 1960.

FEDOTOV, S.A.; AVER'YANOVA, V.N.; BAGDASAROVA, A.N.; KUZIN, I.P.;
TARAKANOV, R.Z.

Some results of a detailed study on the seismicity of southern
Kurile Islands. Izv.AN SSSR.Ser.geofiz. no.5:633-642 My '61.
(MIRA 14:4)

1. Adademiya nauk SSSR, Institut fiziki Zemli.
(Kurile Islands--Seismometry)

ARKHANGEL'SKAYA, V.M.; FEDOROV, S.A.

Some results of studies on the attenuation of Rayleigh surface waves.
Izv. AN SSSR. Ser. geofiz. no.8:1122-1131 Ag '61. (MIRA 14:7)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Seismic waves)

AVER'YANOVA, V.N.; PEDOTOV, S.A.; FERCHEV, M.D.

Preliminary data on the earthquake and tsunami of November 6, 1958.
Biul. Sov. po seism. no.9:89-99 '61. (MIRA 14:4)

(Kurile Islands—Earthquake, 1958)
(Kurile Islands—Tidal wave, 1958)

S/169/62/000/009/029/120
D228/D307

AUTHOR: Pedotov, S. A.

TITLE: Some kinematic and dynamic peculiarities of seismic waves refracted at curvilinear boundaries

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 28,
stract 9A188 (Tr. Sakhalinsk. kompleksn. n.-i. in
no. 10, 1961, 131-146)

TEXT: Head wave peculiarities, related to the boundary curvature, are considered. The case of one curved refracting boundary was investigated, the observation surface being flat and the seismic wave propagational velocities constant. The boundary's rises and hollows were considerably greater than the wavelength. The refracting wave was assumed to slide along the boundary. It is shown that seismic waves, refracted at curved boundaries, have essential kinematic and dynamic peculiarities: hodograph loops, wave-duplicates and multiple waves, sharp amplitudinal changes in consequence of the effects of the focussing and the dissipation of energy. The greater the depth

Card 1/3

Some kinematic and ...

S/169/62/000/009/029/120
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of the boundary, its slope angles and the value of the critical angle, the larger the hodograph loops. The probability of their formation increases as the medium's velocity differentiation increases. Wave-duplicates arise as a result of a wave falling at the critical angle on several points of the boundary. Their probability of appearance, their number, and the time intervals between them increase as the boundary's depth, the hollows' curvature, and the critical angle increase. In deep concavities, when the slope angles constitute approximately $90^\circ - i_c$, approximately horizontally-directed

seismic waves can fall on the boundary at the critical angle, giving rise to multiple refracted waves. The larger the boundary's slope angles and the lower the medium's velocity differentiation, the higher the probability of appearance of such waves. In the three-dimensional case there may be two more effects: 1) The "breaking away" of the hodograph's loop from the first arrivals' hodograph in consequence of the fact that the geometric site of the boundary's points, whose rays reach the given profile, may consist of several lines having no common points. 2) Distortions (increase

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Some kinematic and ...

S/169/62/000/009/029/120
D228/D307

in the arrival times) of nonlongitudinal hodographs in consequence of the boundary's curvature between the detonation point and the nonlongitudinal profile. As a result of the effect of the seismic energy's focussing and dissipation the amplitude graphs of refracted waves can have a sawlike form even over gentle weakly undulating boundaries. These effects depend on the curvature of the boundary's sections and on its depth. The third arrivals, which represent a wave from the bottom of a hollow that has passed the focusing zone, possess the maximum intensity within the hodograph's loop. The author notes that all seismic boundaries are variously curved, and that all the peculiarities considered can be observed over them of the boundary's depth is greater than the radius of curvature of its concave elements. Waves, reflected from curved boundaries, also have analogous kinematic and dynamic peculiarities. 23 references. *[Abstracter's note: Complete translation.]*

Card 3/3

FEDOTOV, S.A.

Determining the areas of the origin of tsunami during the Kamchatka Earthquake of November 4, 1952 and the Iturup Earthquake of November 6, 1958. Izv. AN SSSR, Ser. geofiz. no.10:1333-1339 0 '62.
(MIRA 14:2)

1. Institut fiziki Zemli AN SSSR.
(Kamchatka—Tidal wave, 1952) (Iturup Island—Tidal wave, 1958)

FEDOTOV, S.A.

Detailed seismological research in the southern Kurile Islands.
Biul. MOIP. Otd. geol. 37 no.4:133-134 Jl-4g '62. (MIRA 16:5)
(Kurile Islands—Seismology)

L 10186-63

EWT(1)/BDS--AFPTC/ESD-3--TF

ACCESSION NR: AP3001047

S/0049/53/000/005/0670/0686
355
*344*AUTHOR: Fedotov, S. A.; Kuzin, I. P.

TITLE: Velocity profile of the upper mantle in the area of the southern Kurile Islands

SOURCE: AN SSSR. Izv. Seriya geofizicheskaya, no. 5, 1963, 670-686

TOPIC TAGS: seismic wave velocities, upper mantle, Moho discontinuity

ABSTRACT: A rapid method for constructing velocity profiles using Yu. V. Riznichenko's theoretical hodographs was investigated using data from the near subcrustal seismic zone of the southern Kurile Islands. To avoid errors due to irregularities in the upper crust, arrival times were measured from near the base of the crust 20 km below the stations. Corrections were introduced to compensate for the intervening thickness of the crust. The accuracy of this method, with corrections for a depth of 40--50 km, was + or - 0.2 sec; the systematic error in determining focal depth was about 2 km. From the base of the crust down to 80 km, $V_{sub p} = 7.7$ km/sec and $V_{sub s} = 4.4$ km/sec. Velocity increases with depth below 80 km. Surface waves indicate the existence of two types of structure of

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L 10186-63
ACCESSION NR: AP3001047

the upper mantle: continental and oceanic. The low velocities at the Moho (probably due to magmatic activity), the absence of a wave guide, and the small decrease of velocity (0.1--0.2 km/sec) at 50--80 km indicate the possibility of a third type of structure called the "upper mantle of an island arc." The method is applicable to seismic areas with intermediate [70--300 km] focal depths. Orig. art. has: 10 figures, 5 tables, and 4 formulas.

ASSOCIATION: Akademiya nauk SSSR. Institut fiziki Zemli (Academy of Sciences SSSR, Institute of Physics of the Earth)

SUBMITTED: 29Jun62 DATE ACQ: 19Jun63 ENCL: 00
SUB CODE: 00 NO REP Sov: 009 OTHER: 017

Yin/4
Card
2/2

L 10111-03

WT(1)/800-ANFTC/28D-3--77

ACCESSION NR: AP3002025

S/0049/63/000/006/0829/0849

AUTHOR: Pedotov, S. A.

54
53

TITLE: Absorption of transverse seismic waves in the upper mantle and energy classification of nearby earthquakes of intermediate focal depth

SOURCE: AN SSSR. Izv. Ser. geofizicheskaya, no. 6, 1961, 829-849

TOPIC TAGS: seismic waves, subcrustal earthquakes, upper mantle, energy classification of earthquakes, seismology of Kurile Islands

ABSTRACT: A method for determining seismic wave absorption in the upper mantle is evaluated on the basis of earthquake data recorded in 1958-1959 in the southern Kurile Islands. The energy absorption of transverse seismic waves was found to be normal at depths of 20-40 km, to increase at depths of 60-110 km, and to reach a maximum at depths of 80-90 km. These data suggest that magma chambers exist in those formations in which transverse wave absorption is anomalously large. With the velocity cross section and data on transverse wave absorption in the earth's crust and in the upper mantle, nomograms were constructed for the energy classification of earthquakes with normal and

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L 10111-63

ACCESSION NR: AP3002025

Intermediate depths of foci. The method is applicable to areas undergoing frequent subcrustal earthquakes. Orig. art. has: 13 figures and 4 formulas.

ASSOCIATION: Akademiya nauk SSSR. Institut fiziki Zemli (Academy of Sciences SSSR, Institute of Physics of the Earth)

SUBMITTED: 16Jul62 DATE ACQ: 16Jul63

ENCL: 00

SUB CODE: 00 NO REF Sov: 330

OTHER: 010

GCK/14
Card 2/2

GORYACHEV, A.V.; YERSHOV, I.A.; KIRILLOV, P.A.; KUZIN, I.P.;
LYAMZINA, O.A.; MEDVEDEV, S.V.; POPOV, V.V.; MEDOTOV, S.A.;
SHTEYNBERG, V.V.

Seismic microzoning of the Petropavlovsk-Kamchatskiy area.
Trudy Inst. fiz. Zem. 28 Vop. inzh. seism. no.8:3-60 '63.
(MIRA 16:11)

FEDOTOV, S.A., BAGDASAROVA, A.M., KUZIN, I.P., TARAKANOV, R.Z.

Seismicity and the subsurface structure of the southern part
of the arc of the Kurile Islands. Dokl. AN SSSR 153 no.3:
668-671 N '63. (MIRA 17:1)

1. Institut fiziki Zemli im. O.Yu. Shmidta AN SSSR. Pred-
stavлено академиком V.S. Sobolevym.

FEDOTOV, S.A.; MATVEYEVA, N.N.; TARAKANOV, R.Z.; YANOVSKAYA, T.B.

Longitudinal wave velocities in the earth's upper mantle
in the region of the Japanese and Kurile Islands. Izv.
AN SSSR. Ser. geofiz. no.8:1185-1191 Ag '64 (MIRA 17:8)

1. Institut fiziki Zemli AN SSSR.

1-7007-65 EMT(1)/EMI(b) Feb APWL/SSD/AFETR - CW

ACCESSION NR: AP4049787

S/0049/64/000/009/1360/1375

AUTHOR: Fedotov, B. A.; Kuzin, I. P.; Bobkov, N. F.

TITLE: Detailed seismological investigations at Kamchatka in 1961 and 1962 B

SOURCE: AN SSSR. Investiya. Seriya geofizicheskaya, no. 9, 1964, 1360-1375

TOPIC TAGS: seismic activity, seismological station, Pacific seismic belt, seismography, Kamchatka

ABSTRACT: The results of observations made at a network of seismic stations established by a special Pacific seismic expedition to Kamchatka during the period 1961-1962 are reviewed. The instruments, methods, and techniques of observation and data reduction were essentially the same as those used in an earlier expedition to the Kurile Islands from 1958 to 1962. It has been experimentally established that near-earthquakes with $M \geq 10$ are clearly recorded at distances of 200-300 km. On the basis of the seismic materials gathered during the first year at Kamchatka, it was possible to compile a map of epi-

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L 7037-65

ACCESSION NR: APk045787

centers, a map of seismic activity (based on earthquakes with foci depths of less than 60 km), a compound vertical section, and a frequency diagram. A distinct earthquake belt was identified running parallel to the deep-water depression through the tips of the Kronotskiy and Shipunskiy peninsulas southwest to the 52° latitude line. The compound vertical section shows that this belt is an outcrop of the Pacific focal zone which crosses the deep-water depression and the elevated Kamchatka. The belt reflects the intensive contemporary processes taking place in the earth's mantle which led to the development of the island arc and the deep-water depression. The map of epicenters indicates that the deep-water depression, the structure of the Shipunskiy peninsula and its underwater extension, and the depression of the Kamchatka River and bordering mountains continue to develop intensively today. Corrections will have to be made in the map of seismic zoning of Kamchatka. On the eastern shore of Kamchatka the nine-point intensity zone should be expanded to include the town of Petropavlovsk-Kamchatskiy. Orig. art. has: 8 figures and 2 tables.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of Sciences SSSR, Institute of Physics of the Earth); sibirskoye otdeleniye

Card 2/3

L 7007.65

ACCESSION NR: AP4045787

leniyt, Institut vulkanologii (Siberien Department, Institute of

SUBMITTED: 26Jul63 ATD PRESS: 3103

ENCL: 00

SUB CODE: ES

NO REF Sov: 029

OTHER: 004

Card 3/3

L 20424-66 EWT(1)/EWA(h) GN
ACC NR: AT6007194

SOURCE CODE: UR/2619/65/000/036/0003/0033

AUTHOR: Yershov, I. A.; Medvedev, S. V. (Professor); Fedotov, S. A.; Shteynberg, V. V.

ORG: none

24

TITLE: Seismic microregionalization of Petropavlovsk (Kamchatka)

B71

SOURCE: AN SSSR. Institut fiziki Zemli. Trudy, no. 36 (203), 1965. Seismicheskoye mikrorayonirovaniye; voprosy inzhenernoy seismologii (Seismic microdistricting; problems of engineering seismology), no. 10, 3-33

TCPIC TAGS: seismicity, seismic mapping, seismic survey, microregionalization

ABSTRACT: The city of Petropavlovsk (Kamchatka) lies in seismic zone IX (according to the new map of seismic zones of the USSR), a few tens of kilometers from the Pacific Ocean seismic belt. The slope of the basin off southern Kamchatka is one of the most active segments of the circum-Pacific belt. The city lies in the north-eastern part of the Kurile-Kamchatka folded zone. The geomorphology and geology of the district are described briefly. Investigations over a period of three years (1961-64) by the Pacific Ocean Seismic Expedition of the Institute of Geophysics, AN SSSR, on Kamchatka have led to refinement of intensity data for Petropavlovsk (Kamchatka) and have permitted compilation of maps showing divisions of the city into seismic subdistricts. This work represents the first combined operation of instrumental work for such detailed subdivisions of seismic districts. Data include

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recordings of nearby earthquakes by automatic equipment, measurements of longitudinal and transverse wave velocities, and measurements of microseisms. The work has furnished better data for compiling maps of seismic districts and for comparing different methods of determining intensity increments by instrumental recording. Different instrumental methods have shown rather good agreement. It is noted that the most valuable information concerning possible seismic activity may be obtained by analyzing ground movements from nearby earthquakes by means of automatic equipment. An essentially new aspect of the maps is the delineation of zones with different spectra of earthquake effects on buildings and other structures. This is an important contribution to engineering practice in constructing earthquake-proof buildings. At many points in zones of scale IX along the Kamchatka coast and on the Kuriles, geologic conditions of bedrock and soils are similar to those in Petropavlovsk (Kamchatka). The same technique of dividing into districts has been followed, but where instrumental data have not been available, characteristics of bedrock and soils as observed at Petropavlovsk have been used as the basis for delineating districts. Orig. art. has: 13 formulas, 14 figures, and 4 tables. [04]

SUB CODE: 08/ SUBM DATE: none/ ORIG RED: 034/ OTH REF: 006/ ATD PRESS: 4222

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2131-66 EWT(1)/EWA(h) GW/JXT(cx)
ACC NR: AT6007157

SOURCE CODE: UP/2619/65/000/036/0061/0065

AUTHOR: Fedotov, S. A.

ORG: monet

TITLE: Seismological investigations of the Pacific Ocean Seismic Expedition,
Institute of the Physics of the Earth, Academy of Sciences SSSR, in 1957-1963

SOURCE: AN SSSR. Institut fiziki Zemli. Trudy, no. 36 (203), 1965. Seismicheskoye
mikrorayonirovaniye; voprosy inzhenernoy seismologii (Seismic microdistricting;
problems of engineering seismology), no. 10, 61-65

TOPIC TAGS: seismic belt, earthquake, seismic research, vulcanism

ABSTRACT: All projects conducted by the Pacific Ocean Seismic Expedition (TSE) of
the Departments of Engineering Seismology and Earthquake Physics, Institute of the
Physics of the Earth (IFZ), are described briefly. Although 80% of the earthquakes
in the Soviet Union originate in the Kurile-Kamchatka region, only three low magni-
fication seismic stations were in operation here prior to the IGY. In 1957, using
deep seismic-sounding methods, the Pacific Ocean Complex Geological-Geophysical Ex-
pedition of the IFZ began its work, which was mostly performed at sea. A seismologi-
cal team was organized to conduct detailed seismological investigations in the south-
ern Kurile Islands. In 1959, the team was reorganized into the Pacific Ocean Seismic
Expedition, which is still active. In 1957-1958, the main objective of investiga-
tion was to make a detailed study of the seismicity and seismotectonics of the

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crust and mantle. The Seismology Laboratory of the Sakhalin Complex Scientific Research Institute, Siberian Branch, AN SSSR, (SakhKNII) worked with the TSE to establish a network of five sensitive seismic stations in the southern Kuriles (September 1957). Continuous earthquake recording began on 1 January 1958. Up to September 1958, all stations were located on Iturup Island, where stations were established on Shikotan and Kunashiro Islands. In 1959-1962, the principal assignments of the TSE were to study deep structure, properties of the upper mantle, and seismic conditions in the southern part of the Kurile Archipelago. Detailed measurements were made of the severe earthquake ($M = 8.2$) of 6 November 1958 in the ocean off Iturup Island, with intensities of 8-9 which caused tsunami. Studies of the seismicity and properties of the upper mantle showed that the southern Kurile focal zone is far more compact than formerly believed and apparently is not a channel for the escape of magma from deep depths. A somewhat slower seismic wave velocity was found to exist in the upper mantle under the southern Kuriles and adjacent shelf. The absorption of transverse seismic waves was found to increase at depths of 60-110 km, and the temperature in the upper mantle to be higher in this region than under the continents (by 100°C at depths of 50-70 km). Methods were developed for engineering seismological observations with devices which were switched on automatically when earthquakes occurred and for high-speed recording on photographic paper. Detailed seismological investigations in the southern Kuriles were essentially completed by the TSE in the summer of 1962. Only studies of the spectra of southern Kuriles earthquakes are still being studied by the TSE. Observations are being continued by the SakhKNII with fewer stations. In 1960, a new assignment was to compile a new seismic regionalization map of Kamchatka and the Kamandorskiye Islands

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and the microregionalization of Petropavlovsk (Kamchatka). Detailed seismological investigations of both areas were started in the summer of 1961, with the cooperation of the Laboratory of Geophysical Stations of the Institute of Volcanology (IV), Siberian Branch, AN SSSR. The objective was to obtain accurate information on the location of Kamchatka earthquake foci, seismotectonics, properties of the upper mantle, and the relationships between volcanism and seismic conditions. The network of sensitive regional seismic stations on Kamchatka began permanent recording on 1 November 1961. At present, the combined network of the TGS and the IV includes 10 stations. In 1961-1963, scientists received the first accurate data on the location of earthquake foci in the Kamchatka-Komandorskiy region, the local relationships between seismicity and tectonics, and a new map was compiled of the seismic regionalization of Kamchatka, the Kurile Islands, and the Komandorskiy Islands. A study of the distribution patterns of earthquakes in the Kurile-Kamchatka region led to the development of a procedure and compilation of maps for long-range forecasting of maximum magnitudes of earthquakes in that region. The TGS and IV will investigate seismic conditions, search for ways to forecast earthquakes, study ground motions during strong earthquakes, improve the seismic regionalization of some sections of Kamchatka, and investigate properties of the upper mantle in the vicinity of Kamchatka, the Kurile Islands, and the Komandorskiy Islands. [EO]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 018/ OTH REF: 002/ ATD PRESS: 4219

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L 24838-66 EWT(1)/EWA(h) GM

ACC NR: AT6007198

SOURCE CODE: UR/2619/65/000/036/0066/0093

AUTHOR: Fedotov, S. A.29
B1ORG: Institute of Physics of the Earth, Academy of Sciences, SSSR (Institut fiziki Zemli Akademii nauk SSSR)TITLE: Regularities in the distribution of strong earthquakes in the region of the Kamchatka Peninsula, the Kuril Islands and Northeastern Japan

SOURCE: AN SSSR. Institut fiziki Zemli. Trudy; no. 36 (203), 1965. Seismicheskoye mikrorayonirovaniye; voprosy inzhenernoy seismologii (Seismic microdistricting; problems of engineering seismology), no. 10, 66-93

TOPIC TAGS: earthquake, seismologyABSTRACT: It has been shown by V. N. Gayskiy that strong earthquakes over the entire globe are distributed according to Poisson law and are apparently random independent events. As distinct from this general rule, strong earthquakes in the Kurile-Kamchatka region are interconnected events. These earthquakes are geographically distributed according to a regular law within the limits of the seismogenic

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zone and tend to be grouped in time. It is entirely possible that the strongest earthquakes within the limits of other regions are also interconnected events. This should be taken into account when using statistical probability to evaluate the recurrence interval of strong earthquakes. The focal regions of strong Kurilo-Kamchatka earthquakes in the 20th Century have tended not to overlap one another, which is apparently due to high stress relief in the focal region. Since the recurrence interval for strong Kurilo-Kamchatka and Japanese earthquakes at one point is greater than 100 years, this tendency should continue for the next few decades. These considerations are used as a basis for pointing out potential locations of future strong shallow earthquakes ($M > 7\frac{1}{2}$) in the region of the Kamchatka Peninsula, the Kuril Islands and Northeastern Japan. The probability of these predictions is evaluated at 0.8-0.9. Periods of increased seismic activity are considered. Elementary evaluations give a probability of less than 0.05 for random time distribution of strong Kurilo-Kamchatka earthquakes in the 20th Century. This is natural since a catastrophic earthquake changes stresses throughout a wide region and increases the stresses at the ends of a fault causing other strong earthquakes in the area which may be widely separated from the first earthquake. The Kurilo-Kamchatka earthquakes of 1952-1963 are a good example of this. These earthquakes occurred in pairs: an earthquake at Hokkaido on 4 March 1952 was followed eight months later by

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an earthquake on the Kamchatka Peninsula on 4 November 1952, 1000 km to the northeast; another earthquake on 6 June 1958 was followed six months later by a Kamchatka earthquake 1000 km to the northeast. Active periods and series of earthquakes are known in Japan, Chile, Middle Asia, Turkey etc. The tendency for stress faulting in short periods throughout an entire area may be a common property of regions with high seismicity. The focal regions plotted for strong underwater earthquakes in the Kurilo-Kamchatka area may be considered in comparing tsunami maps as probable locations of tsunamis in the past. The probable sites of future strong Kurilo-Kamchatka earthquakes -- the small Kuril group, the middle Kuril Islands and the Kamchatka Gulf-Kronotskiy Peninsula region -- are also probable sites of future large tsunamis. The authors consider the peculiarities for distribution of the strongest earthquakes ($M > 7\frac{1}{4}$) in the Kurilo-Kamchatka Archipelago. It is still not clear to what extent these peculiarities are true for strong earthquakes in other structures, for instance in Middle Asia where the magnitudes of the strongest earthquakes are usually smaller and the recurrence intervals are larger. Several isolated examples are cited which confirm the peculiarities noted in the paper, although systematic studies are necessary for definite conclusions. Orig. art. has: 7 figures, 4 tables.

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SUBBOTINA, V.P.; TANASIYCHUK, N.P.; FEDOTOV, S.D.; FISENKO, K.N.;
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VIDETSKIY, A.F., kand.tekhn.nauk, glavnnyy red.; DEMIDOV, A.N., red.;
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FELIXOV, S.C.

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Journal of the Institute of Metals
Vol. 21 Part 7
Mar. 1954
Properties of Alloys

"Microradiographic Investigation of the Distribution of Impurities in Nickel Solid Solution. K. A. Olsiny and B. G. Kostyuk. Doklady Akademii Nauk S.S.R.S.S.R., 1951, 78, (1), 51-53. (In Russian). O. and P. studied the binary alloys of Ni with 5 at.-% of W, Mo, Ni, Ti, and Ta, as single-phase solid soln. Using electrolytic Ni and the commercially pure metals, 100-g. ingots were prepared from alloys melted in corundum crucibles in a H.-F. furnace. Coarse grains were produced by slow cooling during the crystn. and by long annealing at 950° and 1100° C. Plates 0.05-0.025 mm. thick (near to the thickness of individual grains) were prepared from the undeformed alloys and microradiographs obtained with Fe radiation of 24 kV. Annealing for 96 hr. at 950° C. + 50 hr. at 1100° C. did not homogenize the dendritic grains in cast Ni-W alloy. The dendrite axes appeared lighter in the radiographs, being enriched in W. The grain boundaries appear as broken lines, X-rays being weakly absorbed by ~50% of the whole grain surface. This weak absorption can be attributed to the presence of early melting impurities, shrinkage porosity, or solid soln. low in W. In Ni-Mo alloy annealed for 96 hr. at 950° C., flakes and needles enriched in Mo were observed. Microscopic investigation showed that the needles represent an independent phase, possibly a compound of Mo and N or one of Mo and Ni. However, the flakes were not observed under the microscope. The parts of the grains near the boundaries were also enriched in Mo. As-cast Ni-Nb alloy had a cored dendritic structure, but became homogenized after 50 hr. at 1100° C., although the edges of the grains were still enriched in Nb and the grain boundaries absorbed X-rays weakly. The Ni-Ti alloy used contained only 1.8 at.-% Ti, and was prepared from Ni-4 wt.-% Ti master alloy; annealing for 60 hr. at 1100° C. removed areas of a weakly absorbing phase, but not the coring inside the grains of solid soln. The heterogeneity of the Ni-Ta alloy was greatly reduced on annealing. Microscopic investigation of the various alloys indicated heterogeneity in the as-cast condition, but not after annealing.

FEDOTOV, S. G., ENC.

Metalwork

Making bars without the help of framework. Rom. energ. 9 No. 7, 1952.

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OSIPOV, K.A.; FEDOTOV, S.G.

Softening of limited solid solutions of metals. Doklady Akad. Nauk S.S.R.S.
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259T15

USSR/Metallurgy - Metals, Solid
Solutions 1 Mar 53

"On the 'New' Plasticity Mechanism of Solid Metal
Solutions," K. A. Osipov, S. G. Fedotov, M. G.
Lozinskiy, Inst of Machine Studies, Acad Sci USSR

DAN SSSR, Vol 89, No 1, pp 57-60

Authors summarize conclusions of several British
investigators, whose works on "new" mechanism of
plasticity in Al and Zn when they are deformed with
low rates at elevated temps were published in
"Journal of the Inst of Metals" for 1949 - 1952.

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They discuss exptl data which corroborate possi-
bility of similar mechanism of plasticity in solid
soln of Cu-Sn system, considering 2 possible inter-
pretations of the nature of this mechanism and dis-
puting assumption that this mechanism is "new,"
not actually representing phenomenon of recrystal-
lization. Four micrographs accompany article.
Presented by Acad N. T. Gudtsov 12 Dec 52.

Evaluated:
8-76-104

USSR/Metallurgy - Vacuum Method in
Metallurgy,
Grain Growth

1 Jul 53

"On the Shift of Grain Boundaries in Heated Metal," I. A. Chir, Corr Mem Acad Sci USSR; M.G. Lozinskiy, S. G. Fodotov; Inst of Machine Science, Acad Sci USSR
DAN SSSR, Vol 91, No 1, pp 75, 76

Presents results of investigations into kinetics of grain growth in steel and Sn-bronze during isothermal holding in vacuum chamber, showing successive positions of growing grain boundaries on two micrographs. Discusses behavior of grain in growth process and calculates linear rate of boundary movement.

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